

WHAT IS CLAIMED IS:

1. A circuit for use in a CDMA based communication system that has a receiver for receiving information intended for the system, via a plurality of dedicated channels, the information including multiple pilots from at least two of the channels, the circuit comprising:

5 a comparator that compares the powers of the multiple pilots from the plurality of dedicated channels to one another and outputs a pilot with the largest power level; and

a channel estimation circuit that is configured to perform channel estimation based on the pilot with the largest power level to derive associated channel parameters.

2. A circuit for use in a CDMA based communication system that has a receiver for
10 receiving information intended for the system, via a plurality of dedicated channels, the information including multiple pilots from at least two of the channels, the circuit comprising:

a channel estimation circuit that is configured to perform channel estimation on each of the dedicated channels, via each of which a pilot is received by the system, to derive channel parameters associated with each channel; and

15 a combining circuit that is configured to combine all the channel parameters to derive final channel parameters.

3. The circuit of claim 1 or 2, further comprising a demodulator that demodulates the information intended for the system to retrieve user data.

4. The circuit of claim 2, further comprising:

a detection circuit that is configured to evaluate the power amplitudes of the parameters to obtain an evaluation result and compare the evaluation result against a predetermined threshold value to generate a control signal; and

5 a comparator for comparing the powers amplitudes of the parameters to one another to output the largest power amplitude, the comparator making the comparison if the control signal indicates that the evaluation result is not greater than the threshold value;

wherein the combining circuit combines all the channel parameters if the control signal indicates that the evaluation result is greater than the threshold value.

10 5. The circuit of claim 4, wherein the detection circuit evaluates the power amplitudes by calculating a power difference between each pair of the parameters for all possible combinations of the parameters and selecting a maximum power difference as the evaluating result.

6. The circuit of claim 4 or 5, further comprising a demodulator that demodulates the
15 information intended for the system, based on an output from one of the comparator and the combining circuit, to retrieve user data.

7. A CDMA based communication system, comprising:

a receiver that receives information intended for the system, via a plurality of dedicated channels, the information including multiple pilots from at least two of the channels;

a comparator that compares the powers of the multiple pilots to one another and outputs a pilot with the largest power level;

a channel estimation circuit that is configured to perform channel estimation based on the pilot with the largest power level to derive associated channel parameters; and

5 a demodulator that demodulates the information intended for the system, based on the associated channel parameters, to retrieve user data.

8. A CDMA based communication system, comprising:

10 a receiver that is configured to receive information intended for the mobile terminal, via a plurality of dedicated channels, the information including multiple pilots from at least two of the channels;

a channel estimation circuit that is configured to perform channel estimation on each of the dedicated channels, via each of which a pilot is received by the system, to derive channel parameters associated with each channel;

15 a combining circuit that is configured to combine all the channel parameters to derive final channel parameters for outputting; and

a demodulator that is configured to demodulate the information intended for the system, based on at least an output of the combining circuit, to retrieve user data.

9. The system of claim 8, wherein the combining circuit combines all the channel parameters by performing arithmetic addition on these channel parameters.

10. The system of claim 8 or 9, further comprising:

a detection circuit that is configured to evaluate the power amplitudes of the parameters to
5 obtain an evaluation result and compare the evaluation result against a predetermined threshold value to generate a control signal; and

a comparator for comparing the powers amplitudes of the parameters to one another to output the largest power amplitude, the comparator making the comparison if the control signal indicates that the evaluation result is not greater than the threshold value;

10 wherein the combining circuit combines all the channel parameters if the control signal indicates that the evaluation result is greater than the threshold value;

wherein the demodulator demodulates the information intended for the system, based on an output from one of the comparator and the combining circuit, to retrieve user data.

11. The system of claim 10, wherein the detection circuit evaluates the power
15 amplitudes by calculating a power difference between each pair of the parameters for all possible combinations of the parameters and selecting a maximum power difference as the evaluating result.

12. A method for use in a CDMA based communication system that has a receiver for receiving information intended for the system, via a plurality of dedicated channels, the

information including multiple pilots from at least two of the channels, the method comprising the steps of:

comparing the powers of the multiple pilots from the plurality of dedicated channels to one another;

5 outputting a pilot with the largest power level; and

performing channel estimation based on the pilot with the largest power level to derive associated channel parameters.

13. A method for use in a CDMA based communication system that has a receiver for receiving information intended for the system, via a plurality of dedicated channels, the
10 information including multiple pilots from at least two of the channels, the method comprising the steps of:

performing channel estimation on each of the dedicated channels, via each of which a pilot is received by the system, to derive channel parameters associated with each channel;

outputting the channel parameters associated with each channel; and

15 combining all the channel parameters to derive final channel parameters.

14. The method of claim 12 or 13, further comprising the step of demodulating the information intended for the system to retrieve user data.

15. The method of claim 13, further comprising the steps of:

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evaluating the power amplitudes of the parameters to obtain an evaluation result;

comparing the evaluation result against a predetermined threshold value to generate a control signal; and

comparing the powers amplitudes of the parameters to one another to output the largest
5 power amplitude, if the control signal indicates that the evaluation result is not greater than the threshold value;

wherein the combining step is performed if the control signal indicates that the evaluation result is greater than the threshold value.

16. The method of claim 15, wherein the evaluating step is performed by calculating a
10 power difference between each pair of the parameters for all possible combinations of the parameters and selecting a maximum power difference as the evaluating result.

17. The method of claim 15 or 16, further comprising the step of demodulating the information intended for the system, based on an output from one of the largest power amplitude and the final channel parameters, to retrieve user data.

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